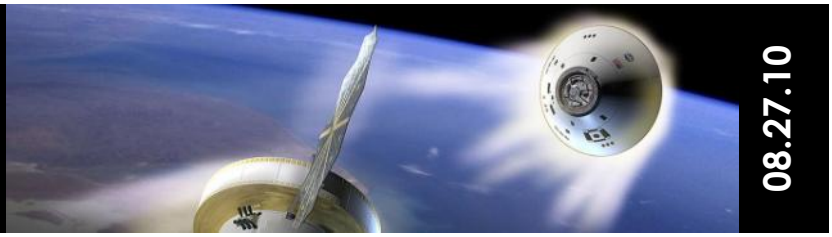
ORION
CREW EXPLORATION VEHICLE

WEEKLY ACCOMPLISHMENTS



08.27.10

The Orion Crew Module Ground Test Article (GTA) team performed a dry run of the test procedure for the upcoming proof pressure tests at the Michoud Assembly Facility (MAF) in New Orleans, Louisiana. A leak check was also performed this week with no leaks found. The final proof test is scheduled for next week.

Pictured above is the Orion launch abort vehicle wind tunnel model (~10 inches in diameter) being installed in the 11' X 11' wind tunnel test section in the Ames Research Center unitary plan wind tunnel. This high fidelity wind tunnel test (also known as 80-AS) characterizes the Orion external acoustics and internal vibration environments and simulates the hot plume environment during an abort using helium as the gas. The aeroacoustic measurements are important to Orion as these measurements validate the structural vibration and acoustic loads being used to design the Orion structure.

The Orion CEV Parachute Assembly System (CPAS) preliminary design review began this week. Discussion items included the system overview and design, environments, test plans, failure tolerance (FMEA & Hazards), and integration of the hardware into the forward bay of the Orion vehicle. In addition, a status of the parachute mortar hardware was provided by General Dynamics- Ordnance & Tactical Systems. Major areas of discussion included the length of steel in the parachute riser lines; the use of a torque limiter; and the ability to test at the current drogue deployment altitude.

Shown left are Houston Congressman Gene Green (center), Mark Kirasich, NASA Orion Deputy Project Manager (right) and Larry Price, Lockheed Martin Deputy Orion Program Manager in front of the full-scale Orion mockup at the Lockheed Martin Exploration Development Lab (EDL) in Houston, TX. Congressman Green was briefed on Orion status and development progress.

The side hatch was installed as one of the final assembly tasks needed to deliver the Orion Medium Fidelity Mockup (MFM) core structure located at Johnson Space Center in Houston, Texas. The mockup (shown right) will be available for use for technical brainstorming sessions, familiarization tours, and evaluations. The MFM was built to help meet the Orion vehicle needs in the areas of hardware and operations design development and verification testing. In addition, the MFM supports ingress/egress evaluations and ergonomic assessments to ensure Orion's interior design is optimized for crew functionality and safety.

Solar Array production readiness is progressing and will be housed in a new production center recently opened at the ATK facility in Goleta, CA. Among the spacecraft components to be produced in the new facility are the 18-foot diameter UltraFlex solar arrays, which will provide electrical power to NASA's Orion crew exploration vehicle during its LEO and beyond-LEO missions. The UltraFlex design provides highly efficient power conversion, an ultra-lightweight structure with high strength and compact stowage volume.